Notice for TAIYO YUDEN products

Please read this notice before using the TAIYO YUDEN products.

⚠ REMINDERS

■ Product information in this catalog is as of October 2008. All of the contents specified herein are subject to change without notice due to technical improvements, etc. Therefore, please check for the latest information carefully before practical application or usage of the Products.

Please note that Taiyo Yuden Co., Ltd. shall not be responsible for any defects in products or equipment incorporating such products, which are caused under the conditions other than those specified in this catalog or individual specification.

■ Please contact Taiyo Yuden Co., Ltd. for further details of product specifications as the individual specification is available.

■ Please conduct validation and verification of products in actual condition of mounting and operating environment before commercial shipment of the equipment.

■ All electronic components or functional modules listed in this catalog are developed, designed and intended for use in general electronics equipment.(for AV, office automation, household, office supply, information service, telecommunications, (such as mobile phone or PC) etc.). Before incorporating the components or devices into any equipment in the field such as transportation,(automotive control, train control, ship control), transportation signal, disaster prevention, medical, public information network (telephone exchange, base station) etc. which may have direct influence to harm or injure a human body, please contact Taiyo Yuden Co., Ltd. for more detail in advance.

Do not incorporate the products into any equipment in fields such as aerospace, aviation, nuclear control, submarine system, military, etc. where higher safety and reliability are especially required.

In addition, even electronic components or functional modules that are used for the general electronic equipment, if the equipment or the electric circuit require high safety or reliability function or performances, a sufficient reliability evaluation check for safety shall be performed before commercial shipment and moreover, due consideration to install a protective circuit is strongly recommended at customer's design stage.

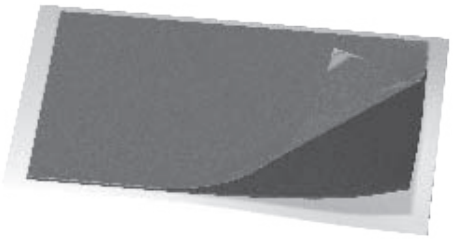
■ The contents of this catalog are applicable to the products which are purchased from our sales offices or distributors (so called “TAIYO YUDEN’s official sales channel”).
It is only applicable to the products purchased from any of TAIYO YUDEN’s official sales channel.

■ Please note that Taiyo Yuden Co., Ltd. shall have no responsibility for any controversies or disputes that may occur in connection with a third party's intellectual property rights and other related rights arising from your usage of products in this catalog. Taiyo Yuden Co., Ltd. grants no license for such rights.

■ Caution for export
Certain items in this catalog may require specific procedures for export according to “Foreign Exchange and Foreign Trade Control Law” of Japan, “U.S. Export Administration Regulations,” and other applicable regulations. Should you have any question or inquiry on this matter, please contact our sales staff.
Should you have any question or inquiry on this matter, please contact our sales staff.

スーパーフレキシブル電波吸収シート
SUPER FLEXIBLE ELECTROMAGNETIC WAVE ABSORBING FILM

OPERATING TEMP.	静的使用 Static use	−40〜+125℃
	動的使用 Dynamic use	−30〜+85℃



EMSEAL™ SFX1

＊EM SEALは太陽誘電の商標です。
＊EM SEAL is a trademark of TAIYO YUDEN CO.,LTD.

特長　FEATURES

・200万回(r=2mm/180° 曲げ)を超える屈曲に耐えるフレキシビリティー
・可動するフレキへの装着を可能にした高信頼性耐熱ヒートシール接着
・ラミネートだけでなく半田リフローによる接着も可能
・タック性を有するためノイズ対策の最適位置発見が容易
・電波吸収シートとして業界最高レベルの電波吸収性能
・表面抵抗$10^8\Omega$/cm以上
・放熱シートに準ずる高い熱伝導率
・環境対応(ノンハロゲン・鉛フリー等)
・基本特許出願済
・耐熱ヒートシールタイプの他、従来型の耐熱性粘着タイプもラインナップ

・Super flexible film for over 2 million cycle of 180 degree-bending at 2mm of radius
・Durable and heat-resistive heat-sealing suitable for moving flexible films
・Bonding not only by laminating but also by solder re-flow
・It is easy to find optimum position by bonding temporarily by the tackiness
・Best electromagnetic wave absorbing capability in the market
・Surface resistivity of over $10^8\Omega$/cm
・High thermal conductivity as good as commercial thermal sheets
・Environmental awareness, Halogen and Pb-free
・Basic patent pending
・Lineup the conventional heat-resistive adheasing type.

用途　APPLICATIONS

・電子回路・電子部品のノイズ対策
・FPC・FFC等屈曲する電子回路のノイズ対策
・半導体等発熱する電子部品のノイズ対策

・EMC for electronic circuit and components
・EMC for flexible substrates, FPC or FFC
・EMC for the hot electronic components such as power semiconductors

形名表記法　ORDERING CODE

1

形式	
E	EMSEAL

2

タイプ	
1	SFX1

3

接着方式	
A	熱硬化ヒートシールタイプ
B	耐熱性粘着タイプ

4

磁性体厚み〔mm〕	
5	0.55
3	0.35
2	0.25

※厚み記号(数字)は代表値
(小数点以下1桁目を表示)

5

シート外形〔mm〕	
A	297×210(A4)
Z	特殊外形品(図面品)

6

個片形状	
A	長方形品
B	異形品(図面品)

7

個片長辺寸法 L〔単位：0.1mm〕	
0315	31.5
0000	個片形状が異形の製品

8

個片短辺寸法W〔単位：0.1mm〕	
0220	22.0
0000	個片形状が異形の製品

＊長辺寸法が短辺寸法より長いこと

9

図面番号	
00	00〜ZZ(ZZは図面なし)

10

当社管理記号	
△	標準品
0	0〜Z

E 1 A 5 A A 0 3 1 5 0 2 2 0 Z Z ○
1 2 3 4 5 6 7 8 9 10

1

Type	
E	EMSEAL

2

Configuration	
1	SFX1

3

Bonding Type	
A	Heat-resistive heat-sealing
B	Heat-resistive adheasing

4

Thickness of the Magnetic body〔mm〕	
5	0.55
3	0.35
2	0.25

※The thickness code(number) indicates typical value. (It indicates the first digit after the decimal point.)

5

Sheet Configuration〔mm〕	
A	297×210(A4)
Z	Non-standard shape

6

Configuration of Individuals	
A	Squared shape
B	Non-standard shape

7

Long Side Dimension of Individuals L〔Unit：0.1mm〕	
0315	31.5
0000	Products with non-standard individuals

8

Short Side Dimension of Individuals W〔Unit：0.1mm〕	
0220	22.0
0000	Products with non-standard individuals

＊Long side should be longer than short side.

9

Drawing Number	
00	00〜ZZ (No drawings for ZZ)

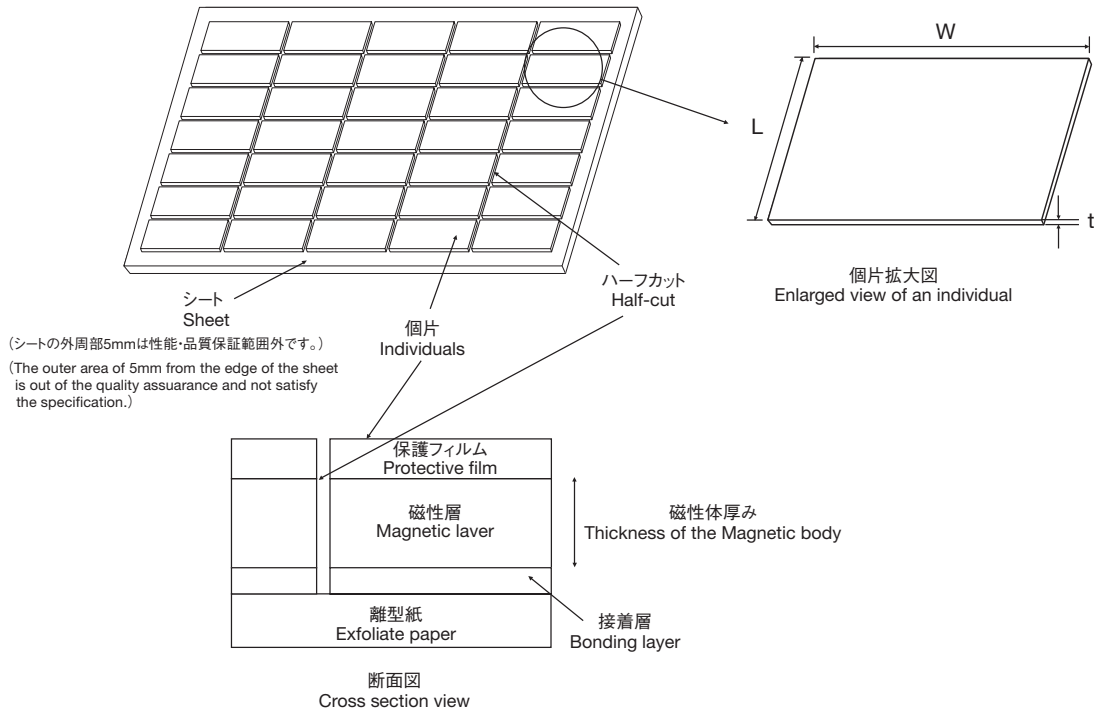
10

Internal Code	
△	Standard products
0	0〜Z

⚠当社カタログをご使用の際には「当社製品に関するお断り」を必ずお読みください。
TAIYO YUDEN 2009
⚠Please read the "Notice for TAIYO YUDEN products" before using this catalog.

外形寸法　EXTERNAL DIMENSIONS

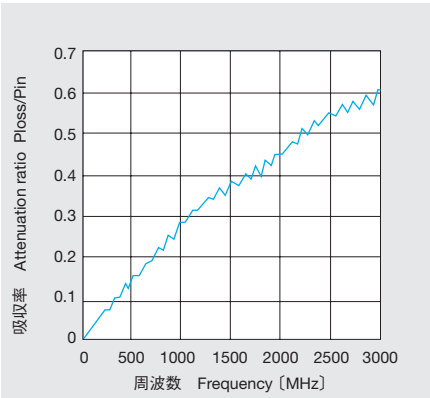
シートと個片の模式図
Model Diagram of Sheet and Individuals



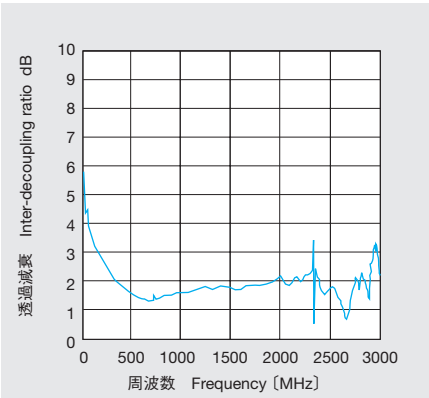
アイテム一覧・電気的特性・代表特性　Part Numbers・Electrical Characteristics・Typical Characteristics

Item	Test	Frequency（MHz）	DUT Size（mm）	Method
EMSEAL SFX1	Transmission-attenuation	10～3000	50×50	MSL 50Ω
	Inter-decoupling	10～3000	50×50	Double loop antenna

Transmission-attenuation



Inter-decoupling



14
SUPER FLEXIBLE ELECTROMAGNETIC WAVE ABSORBING FILM

セレクションガイド Selection Guide P.18
アイテム一覧 Part Numbers P.579
特性図 Electrical Characteristics P.579
梱包 Packaging P.580
信頼性 Reliability Data P.580
使用上の注意 Precautions P.580
etc

PACKAGING

correspond individually

RELIABILITY DATA

Item		Specified Value		Test Methods and Remarks
1. Operating temperature range		Static use	−40～+125℃	Measure by the in-house valiation standard based on JASO D001-94. (125℃, 1000hrs)
		Dynamic use	−30～+85℃	
2. Storage conditions	Storage environment	40℃／70%RH max.		Storage conditions before bonding
	Max storage period	6 months after shipment		
3. Resistance to soldering heat		No abnormality in appearance and performance		Bond our standard flexible substrate with recommended bonding condition, float it in molten solder at 260℃ for 5 minutes and take it out to check the appearance and performance.
4. Heat impact test		No abnormality in appearance and performance		Bond our standard flexible substrate with recommended bonding condition, expose it alternately at −30 ℃ and 85 ℃ for 30mins each for 1000 times, then leave it for 1hr and check the appearance and performance.
5. High temperature life test		No abnormality in appearance and performance		Bond our standard flexible substrate with recommended bonding condition, leave it in the 125 ℃ atmosphere for 1000hrs, then leave it at room temperature for 1hr and check the appearance and performance.
6. Damp heat test		No abnormality in appearance and performance		Bond our standard flexible substrate with recommended bonding condition, leave it in the 85℃, 85%RH atmosphere for 1000hrs, then leave it at room temperature for 1hr and check the appearance and performance.

PRECAUTIONS

Stages	Precautions	Tachnical Considerations
1. Bonding mothod (Recommended conditions)	Heat-resistive Heat-sealing type: ①Laminate 100℃ ②Press 0.5MPa×100℃×2mins ③Post cure 150℃×3hrs	Suitable for flexible substrate(polyimide)
2. Strorage conditions	◆Storage conditions 1. This product may deteriorate adhesiveness when stored with unbonding condition under the following environment: ・exposure to particular gases such as Cl2, NH3, SOx, NOx ・exposure to volatile or inflammable gases ・exposure to a lot of dust ・exposure to excessive moisture or wet locations ・exposure to direct sunlight or freeze 2. Recommended conditions ・Temperature：−10～+40℃ ・Humidity：15～70%RH 3. This product sould be used within 6 months from the time of delivery. If exceeding the above period, please check bonding ability before using the product.	

■ Please contact of our offices for further details of specifications.
All of the standard values listed here are subject to change without notice due to technical improvements.
Therefore,please check the specifications carefully before use.

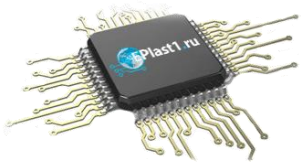
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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